



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|------------------------------------------------------------------------------------------------------------|-------------|----------------------|---------------------|------------------|
| 10/725,236 | 12/01/2003 | Andrew J. Curello | BIC-022 | 1939 |
| 29626 | 7590 | 03/08/2006 | EXAMINER | |
| THE H.T. THAN LAW GROUP WATERFRONT CENTER SUITE 560 1010 WISCONSIN AVENUE NW WASHINGTON, DC 20007 | | | ROGERS, DAVID A | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2856 | |

DATE MAILED: 03/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

8

| | | | |
|----------------------------------------------------------------------------------------------|---------------------------------------|----------------------------------------|--|
| <p align="center">Advisory Action Before the Filing of an Appeal Brief</p> | <p>Application No. 10/725,236</p> | <p>Applicant(s) CURELLO ET AL.</p> | |
| | <p>Examiner David A. Rogers</p> | <p>Art Unit 2856</p> | |

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 14 February 2006 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☐ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
 b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
 (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
 (b) ☐ They raise the issue of new matter (see NOTE below);
 (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
 (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☒ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
 5. ☐ Applicant's reply has overcome the following rejection(s): _____.
 6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
 7. ☐ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
 The status of the claim(s) is (or will be) as follows:
 Claim(s) allowed: _____.
 Claim(s) objected to: _____.
 Claim(s) rejected: _____.
 Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
 9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
 10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
See Continuation Page.
 12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____.
 13. ☐ Other: _____.

Continuation of 11.

Fuel cells associated with electronic equipment may not be visible. Previously cited United States Patents 6,447,945 and 6,808,833 show fuel supplies and fuel cells located in their respective electronic equipment, i.e., not visible to the user. Any visual gauge would be useless in these situations. Therefore, the visual gauge taught by Becerra *et al.* in just one embodiment would not be appropriate. The capacitive sensor of Hsu *et al.* would provide the sensor that would provide an indication of the fuel in the fuel cell's bladder when a visual gauge is not appropriate.

Becerra *et al.* teaches fuel cartridges, as seen in figures 2, 3, 5A, 5B, 6, 7, 8A, and 8B. Figure 6 shows a fuel cartridge with a visual scale for determining fuel level in the cartridge. Hsu *et al.* shows a closed container having a fuel sensor comprising a moving member and a static member as seen in figure 2A and 7A. In both cases the moving member is associated with the bladder, and the static member is associated with the housing. Adding this sensing arrangement to the fuel cell of Becerra *et al.*, such as on the embodiment shown in figures 2, 3, or 5A would result in a movable sensing member associated with the fuel cell bladder and a static sensing member associated with the fuel cell housing.

As noted above there is clear suggestion to add the capacitive sensor of Hsu *et al.* to the fuel cell of Becerra *et al.* Claim 1, for example, requires that the static sensing member be "on the fuel cell or on the electronic equipment".

The static sensing member of claim 1, as written with the alternative claim language, does not have to be on the electronic equipment. The combination of Becerra *et al.* and Hsu *et al.* expressly show such an obvious combination.

The applicant's reliance on Board of Patent Appeals decision for *Ex parte Bickford* is not sufficient to allow the claims to become patentable. In *Bickford* the BPAI stated "...we do not view the examiner's speculative cost reduction alone as providing a motivation..." In the present application the argument with regard to cost savings was directed to the alternative limitation of having the static member on the electronic equipment. However, unlike the situation in *Bickford*, this was not the sole reason for providing the motivation to move the static sensing member from the housing to the electronic circuit. It was noted that the fuel cells are disposable. Reducing their manufacturing costs would have been obvious since the disposable fuel cells would require fewer parts, less assembly time, fewer manufacturing defects, etc. These factors are generally known in manufacturing such that they are not "mere speculation" as noted by the BPAI in *Bickford*.

The applicant's arguments regarding the moving of static member to the electronic equipment are also not sufficient to cause the claims to be patentable. On page of the applicant's arguments it is stated "[i]n contrast, as disclosed in FIGS. 2A and 7A and in column 4, lines 1-4 of the Hsu *et al.* reference, only the ink is disposed between the two electrode plates." This is

not correct. Figure 7A shows the two electrode plates 710a and 710b, but the ink is in the bladder below the plates.

Furthermore, the arguments with regard to the dielectric values of the housing is likewise not convincing. With any placement/orientation, the fuel level sensor's associated electrodes the would have to be calibrated throughout the sensor's functional range, e.g., from a full fuel bladder to an empty fuel bladder. This calibration would inherently account for any dielectric material between the electrodes, be it the bladder material, the fuel supply housing, the fuel cell housing, or even air (such as in figure 7A of Hsu *et al.*). Once this is done the measuring circuit, inherently part of the sensing electrodes, would function to provide a correct fuel level indication.

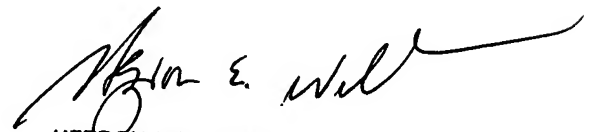
The applicant's request that statements regarding the accuracy of the level sensor of Hsu *et al.* will not be withdrawn. It is generally known in the art the electronic sensing devices are used as they are, in general, more accurate than visual ascertainment.

The applicant's statement that Becerra *et al.* contradicts the examiner's statements is not convincing. Becerra *et al.* discloses one embodiment of many where a visual gauge is provided. However, Becerra *et al.* also discloses several fuel supplies that do not have visual gauges. Furthermore, previously cited United States Patents 6,447,945 and 6,808,833 show fuel supplies and fuel cells located in their respective electronic equipment, i.e., not visible to the user. Any visual gauge would be useless in these situations. Finally, the

Art Unit: 2856

applicant's reference to figure 4 of Becerra *et al.* may show a fuel supply outside of the fuel cell. However, this does not mean that the fuel supply is always and inherently visible to a user.

Rodgers teaches a sensor comprising a static member and a moving member. The sensor is a Hall effect sensor used to detect the amount of fluid in a container. Rodgers was not relied upon for teaching a fuel cell or a fuel supply, or for detecting volume in a fuel supply. That is found in Becerra *et al.* and Hsu *et al.* Welsh *et al.* is relied upon solely to show that capacitive sensors and Hall effect sensors are known to be interchangeable.

A handwritten signature in black ink, appearing to read "Hezron E. Williams", with a stylized, flowing script.

HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800